

WHAT IS CLAIMED IS:

1 1. A method of controlling a write current in a magnetic disk drive, the method
2 comprising:
3 receiving a write command to initiate a present write operation; and
4 if a predetermined period of time has elapsed since a most recent write operation
5 terminated,
6 applying a given write current to a write head coil at the beginning of the
7 present write operation, and
8 decreasing the write current during the present write operation, wherein
9 the write current is less than the given write current at the end of the write operation; or
10 if said predetermined period of time has not elapsed since the most recent write
11 operation terminated, applying a write current less than the given write current at the beginning
12 of the present write operation.

1 2. A method of controlling a write current in a magnetic disk drive, the method
2 comprising:
3 receiving a write command to initiate a present write operation; and
4 if a predetermined period of time has elapsed since a most recent write operation
5 terminated,
6 applying a first write current to a write head coil during a first portion of
7 the present write operation, and
8 applying a second write current during a second later portion of the
9 present write operation, wherein the first write current is higher than the second write
10 current; or
11 if said predetermined period of time has not elapsed since a most recent write
12 operation terminated, applying the second write current during the first and second portions of
13 the present write operation.

1 3. The method of claim 2 wherein a transition between the first and second write
2 currents is a smooth transition with a plurality of intermediate write currents.

1 4. The method of claim 2 wherein the first and second write currents are
2 maintained at respective constant levels during the first and second portions of the write
3 operation.

1 5. The method of claim 2 wherein the first write current is achieved by increasing
2 an amount of overshoot during the first portion of the write operation relative to the amount of
3 overshoot during the second portion of the time interval.

1 6. The method of claim 2 wherein said predetermined period of time is between
2 several tens of microseconds and a millisecond.

1 7. The method of claim 2 wherein:
2 the write current applied to the write head coil is specified by a register value; and
3 the register value is set to specify the first write current after said predetermined
4 period of time has elapsed.

1 8. A method of controlling a write current in a magnetic disk drive, the write
2 current being supplied to a write head coil when information targeted for storage is divided into
3 specified segments and is written onto a magnetic disk medium,
4 wherein a larger write current at the beginning of writing than at the end of
5 writing is used when the information is written after the elapse of a predetermined period of time
6 subsequently to the end of the last writing, and substantially the same write current at the
7 beginning of writing as at the end of writing is used when the information is written within a
8 predetermined period of time after the start of writing.

1 9. The method of claim 8 wherein the write current is increased or decreased by
2 increasing or decreasing an amount of overshoot.

1 10. The method of claim 8 wherein said predetermined period of time after the
2 start of writing is between several tens of microseconds and a millisecond.

1 11. A magnetic disk drive comprising:
2 a magnetic disk that rotates during operation;

3 a write head having a coil through which a write current is passed during a write
4 operation; and
5 a write current control circuit that causes said write current to decrease during a
6 write operation so that for an initial portion of the write operation, the write current is higher than
7 the write current for an ending portion of the write operation.

1 12. The magnetic disk drive of claim 11 wherein the initial portion is defined by
2 a predetermined number of sectors.

1 13. The magnetic disk drive of claim 11 wherein the write current decreases as a
2 smooth function during the write operation.

1 14. The magnetic disk drive of claim 11 wherein the write current is held at a first
2 value for a first portion of the write operation and then at a second, lower value following the
3 first portion of the write operation.

1 15. A magnetic disk drive using a magnetic head for energizing a coil when
2 information targeted for storage is divided into specified segments and is written onto a magnetic
3 disk medium,
4 wherein said magnetic disk drive has a function of setting the value of write
5 current to be supplied to the coil for each of said specified segments and records a information
6 while varying the write current during a writing sequence.

1 16. The magnetic disk drive of claim 15 wherein said specified segments are
2 sectors.

1 17. The magnetic disk drive of claim 15 wherein said magnetic disk drive has a
2 function of setting an overshoot instead of setting said write current and records the information
3 at various settings for said write current by varying the overshoot.